A PROPOSAL TO ADDRESS

LONG-TERM FLOODING AND EROSION HAZARDS

ON THE

SOUTH SHORE OF LONG ISLAND

December 18, 1987

Prepared by

Department of State
Division of Coastal Resources
and Waterfront Revitalization

STATE OF NEW YORK
DEPARTMENT OF STATE
ALBANY, N.Y. 12231-0001

GAIL S. SHAFFER
SECRETARY OF STATE

November 29, 1988

Ms. Marjorie Ernst
Office of Ocean and Coastal
Resource Management
National Oceanic and Atmospheric
Administration
Universal Building South - Room 722
1825 Connecticut Avenue, N.W.
Washington, D.C. 20235

RE: NA-82-AA-D-CZ-068

Dear Maggie Ms. Ernst:

Please find enclosed a copy of the paper, A Proposal to Address Long-Term Flooding and Erosion Hazards on the South Shore of Long Island. This refines the previously-submitted document, Coastal Hazards: An Analysis and Recommendations for Improved Management, by setting forth a methodology that implements the planning aspects of the Coastal Hazards... paper.

Based on discussion you had with Mr. Lanza, I understand that the submission of the enclosed paper meets the significant improvement final benchmark for Task 5.6, Coastal Erosion and Flooding Hazards Awareness Project, of the above-referenced contract.

If you have any questions about this or the document, please contact me at (518) 474-9201.

Sincerely,

Charles T. McCaffrey, Jr.
Chief,
Bureau of Local Waterfront
Revitalization Programs

CM:SB:rdc
Enclosure

DATE: January 6, 1989

MEMORANDUM FOR: Kathy Cousins

FROM: Maggie Ernst MS

SUBJECT: Comments On New York's Methodology For Addressing Flooding and Erosion Hazards on the South Shore of Long Island

It's always a pleasure to read something as well written as this proposal. I hope you will agree that it meets the final benchmark for Task 5.6, the Coastal Erosion and Flooding Hazards Awareness Project. I wasn't able to locate the report for the interim benchmark to gain some perspective, however.

The methodology provides a logical framework for a very ambitious plan. Randy Lanza has begun to move with this concept in ten trial communities on the South Shore. The CMP Division's mandate to take the lead on this initiative needs to be sanctioned by the Governor's Task Force to boost this effort. Already, a number of State agencies have jumped in to reiterate their responsibilities in this area, which is natural but nonproductive if they have no incentive to share a larger goal and the mutual means of getting there.

I have included my comments and questions in the margins of the document. When you read it, please give me some answers to those questions where you can. I will get the staff to answer the remainder. I have found only two references to SAMPs in the CZMA. Are there others? These would be what are subject to interpretation by the State when defining workable boundaries (pg.20).

We should be able to give the State the benefit of our larger perspective on the use of the SAMP process. Have any states used it for erosion or only for habitat (wetlands) protection? I'd like to get your impressions of this proposal and some guidance on where to go from here if at all.

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I. INTRODUCTION

Through its implementation of the State Coastal Management Program (CMP) the Department of State's Division of Coastal Resources and Waterfront Revitalization plays a central role in the management of coastal erosion hazard areas. While the CMP policies stress the need to minimize and to mitigate the impacts of flooding and erosion, recent events on the south shore of Long Island have illustrated the crises that can result from coastal erosion processes, and have re-emphasized the need for comprehensive and coordinated action at all levels of government.

In order to facilitate the necessary action, the Department of State has developed an approach, described in this paper, to address the long- term flooding and erosion hazard problems on the barrier islands of Long Island.

II. BACKGROUND

The south shore barrier island system stretches approximately 100 miles along the Atlantic coast of Long Island, shielding the mainland from the brunt of Atlantic storms; the total value of residential, commercial, and industrial structures which depend on the integrity of the south shore barrier island for protection is $3.2 billion. The barrier island system is a fragile and heavily used resource. Over 10 million people stream into major federal, State and municipal

recreational facilities on the barrier islands annually. Single and two-family residential structures on the barrier islands within flood zones alone are valued at $826.5 million. While these residential structures were traditionally seasonal, they are increasingly being converted to year-round use, with approximately 75,000 year-round residents in 1984. In addition, significant fish and wildlife habitats of the Great South Bay marshlands and the Atlantic dunes provide shelter for many threatened and endangered species, along with bountiful marine and wildlife resources.

By its nature, the barrier island is a fluid system, shifting and changing shape and location. On the south shore, this shifting, or natural erosion process, is also affected by rising sea levels and locally changing sand supplies. Catastrophic changes in the island's profile result from severe coastal storms. Most recently, Hurricane Gloria caused nearly $ 9 million in damages to properties on the barrier alone. Hurricane Gloria was considered a minor hurricane. Had it struck the barrier island at high tide rather than at low tide, the storm surge would have increased an average of 3.6 feet, causing substantially greater damage. For example, at Jones Beach the actual storm surge from Hurricane Gloria was 5.96 feet. If the hurricane had coincided with high tides, the storm surge would have been 9.8 feet.

The natural migration of the barrier has become a major public policy issue, because lives and property on the barrier island and on the mainland areas protected by it are continually threatened by chronic coastal flooding and erosion. This danger has prompted demands for public funding to control erosion and to prevent flooding on the

barrier islands and on the mainland. Government concern over the most appropriate strategy for managing erosion on the barrier island has a long history. The need to address erosion control and hazard mitigation in a comprehensive manner was clearly expressed in 1945 by the Joint Legislative Commission Studying Erosion of the Atlantic Shoreline. This need was reiterated in 1962 by the Temporary State Commission on the Protection and Preservation of the Atlantic Shorefront of the State of New York. Although the recommendations of these two Commissions embraced planning for the entire barrier island system, and offered a range of specific responses (acquisition, construction, and regulation) to address coastal erosion, little action was taken.

The issue of comprehensive management of south shore erosion came to the forefront again in 1978, when the President's Council on Environmental Quality (CEQ) rejected a U.S. Army Corps of Engineers environmental impact statement supporting a proposed erosion control project which treated individual sections of the barrier islands in isolation from the entire barrier beach system. Nine years after the CEQ decision, there is still no comprehensive plan for the barrier islands at the federal or State level.

The following is a description of erosion problems in three areas on the barrier islands, illustrating the need for comprehensive action, based on a long-term strategy.

A. Ocean Parkway at Gilgo Beach

Ocean Parkway, on the Jones Island portion of the barrier island, provides recreational opportunities to approximately 8.4 million people who use Jones Beach each year. The parkway also serves as a commuter highway, carrying 16,000 cars per day (1985 average annualized daily traffic count). This important transportation route and the access it provides to significant recreation resources is threatened by severe erosion of Gilgo Beach. The protective dunes at Gilgo have been destroyed, and the waves break only 30 feet from the parkway. It is likely that winter storms could undermine, and damage or destroy Ocean Parkway. The potential loss of this important State roadway is a graphic illustration of the public policy problems that are created when static structures, which in this case provide significant public benefits, are built on a dynamic barrier island.

The accelerated erosion problems at Gilgo Beach are a direct result of both chronic long-term erosion and the stabilization of Fire Island Inlet, particularly the federal jetty at Democrat Point which was constructed to keep sand from filling in the inlet. These stabilization efforts appear to have been undertaken without an adequate evaluation of the dynamics of the littoral system, and their probable interference with the equilibrium of that system. Once the impact of the projects on the littoral system (i.e. erosion at Gilgo Beach) became evident, the remedial measures (i.e.

beach nourishment for Gilgo Beach) that were taken to address the chronic erosion problems were not consistently applied, thereby exacerbating the problems.

Emergency actions are now underway to protect Ocean Parkway over the winter by dumping sand to create a dune. Alternative long-term measures to preserve the parkway are being investigated.

B. Fire Island

Fire Island forms the central section of the barrier island system. In 1962 Congress designated Fire Island as a National Seashore because of its unique beauty and recreational qualities. Seventeen small communities are located within the Fire Island National Seashore (FINS) boundary. Long-term studies show that the western half of Fire Island may be narrowing due to erosion on both the ocean and the bay sides. Although the eastern half of the island appears to be migrating landward, it is maintaining its width by accreting into the Great South Bay. Coastal geologists and engineers theorize that the western half of the barrier island may only be narrowing to a critical width, at which point it may stabilize and then begin to migrate landward. Both the erosion and the landward migration of the barrier threaten any uses which involve stationary development.

Atlantic storms in 1987 drove waves over the narrow western portion of the barrier, threatening a breach through the island. Each winter additional structures become prone to destruction. In an

attempt to protect existing development, the Fire Island Association, an organization representing local homeowners, has proposed to pay for regrading the upper beach with sand from the lower beach and replenishing the entire beach with large amounts of sand from an outside source. No action has been taken to date because regulatory agencies at the federal, State and municipal levels do not have quantifiable, site-specific information to assess adequately the relative effectiveness of short-term protection measures, such as beach grading, and to determine the long-range impact of those measures.

C. Dune Road, Westhampton Beach

Dune Road is located in the Westhampton Beach area of the Town of Southhampton. The erosion problems along Dune Road are so severe that the area was highlighted in the August 10, 1987, TIME article on coastal erosion. The protective dunes were destroyed years ago, and now the ocean overwashes the barrier island on each full moon and during minor storms. Approximately 250 homes are endangered by erosion, and more than 30 have fallen into the surf zone since 1973.

Accelerated erosion problems at Dune Road are a direct result of the partially completed federal erosion control project in the Westhampton Beach area. Although this project originally called for beach and dune nourishment with groins, as needed, the project design was altered. A series of 15 groins was constructed east to

west, rather than in the recommended direction of west to east. The beach areas between the groins were not backfilled with sand, further exacerbating the downdrift erosion. As a result, the east to west littoral transport of sand was blocked, causing a buildup of sand on the east side of the groins and massive erosion to the west of the groin field. The U.S. Army Corps of Engineers proposed an interim project, estimated to cost more than $160 million over the 50 year economic life of the project, to stabilize the migrating barrier island. This project involved covering the existing groins with sand and conducting an ongoing beach nourishment program.

The Department of State, as the State coastal management agency, determined on October 14, 1987 that this interim project was inconsistent with the State's Coastal Management Program. The State objected to the project because: the expenditure of public funds was not justified by commensurate public benefit; public access was not provided to the newly-created beach; specific technical knowledge about the littoral system and the potential impacts of removing large quantities of offshore sand for beach nourishment was lacking; and protection of endangered species and natural features was not considered.

III. RECOMMENDED APPROACH TO FURTHER THE RESOLUTION OF LONG ISLAND SOUTH SHORE EROSION ISSUES

The three problem areas demonstrate the need for analysis of the complex interrelationships among natural processes, erosion control structures, sea level rise, and public and private use in order to

propose acceptable solutions. Currently, there is no framework to guide the necessary analysis, and as a result, ad hoc actions or inactions threaten the barrier island system.

A. Current State Actions

Within the last six months, the Department of State has initiated two technical studies of erosion problems in the Westhampton Beach area. A third project is a benefit-cost analysis of development in areas subject to flooding and erosion from coastal storms. The fourth initiative, to be completed in January 1988, is a detailed evaluation of the State's overall policy on the management of coastal flooding and erosion hazard areas.

The first of the Westhampton Beach studies will address the impacts which would result from a breach in the barrier island at that location. The aim of the analysis is to develop an understanding of the effects that breaching, or inlet formation, would have on mainland flooding and erosion, and on the biological resources of Moriches and Shinnecock Bays. The results of this study will clarify what benefits, if any, would accrue to the State by the prevention or repair of breaching at this site.

The second Department of State Westhampton Beach initiative will be to examine Westhampton Beach and the immediate vicinity, and recommend steps necessary to minimize the impacts of the existing groin field. An interim study group composed of nationally-

recognized experts in the field of coastal processes and hazard mitigation will develop a site-specific recommendation of the best technical solution to the erosion caused by the groin field, if such a solution exists.

The third Department of State project began in January 1987, in conjunction with the New York/New England Coastal Zone Task Force. The Department of State provided funds for a study of the public costs and benefits which result from development in coastal hazard areas. An important component of the benefit/cost analysis is consideration of the impacts of predicted rise in sea level over the next 50 years.

The possibility of massive flooding and erosion damage due to hurricanes and other coastal storms is already a serious threat on the barrier islands. The projected rise in sea level of between three and six feet over the next century would magnify the flood and erosion damage caused by storms. The study will produce a quantitative model that coastal communities can use to evaluate the future public benefits and costs of continuing to develop areas which are subject to flooding and erosion from storms and sea level rise.

In addition to the studies outlined above, the Department is undertaking an evaluation of the effectiveness of New York State's existing coastal hazard management policy and structure. A preliminary analysis indicates that federal, State and local

agencies react to the impacts of coastal hazards in an ad hoc and often conflicting manner, rather than attempt to prevent or at least to reduce impacts in a comprehensive and systematic way. Governmental decisions are often made based upon perceptions of public benefit which frequently are linked to the degree of public outcry and to vested agency interests. Without any clear management policy, the State is forced to object to isolated projects, such as the Corps of Engineers' Dune Road proposal. The result is ineffective crisis management which fails to solve problems on a short or a long-term basis. The absence of a comprehensive and systematic approach is further aggravated by a lack of information on the barrier beach system.

B. Proposed Long-Term Action

The Department proposes a program to address the long-term issues which will transform the existing implicit and reactive approach into an explicit and prospective policy, and develop a hazard management strategy to coordinate and focus currently disparate State, federal and local actions on the barrier island. The goals of this program are to reduce the potential for loss of life and property, to reduce public disaster related costs, and to implement appropriate projects and land use controls that will protect the fragile barrier island system and preserve public resources through prudent government decisions. The Department's proposal is centered on the development of Special Area Management Programs for Long Island's barrier islands.

1. Special Area Management Programs

A Special Area Management Program (SAMP) is a comprehensive management strategy formulated for a specific geographic area which incorporates site-tailored hazard mitigation/management techniques. The SAMP will be the principal vehicle for improving coastal hazard mitigation and management on the barrier islands.

The area covered by a SAMP will be defined through a careful analysis and integration of data on environmental factors, land uses, economics, public policies, and other relevant information. Accordingly, an individual SAMP could cover a relatively small area or, conversely, a large reach of the barrier island.

While each individual SAMP will be tailored to its delineated area, the management program prepared for each SAMP will be developed within the context of the entire barrier island system. The end result will be a comprehensive State hazard mitigation management policy for the entire barrier island, based on a series of individualized SAMPs. SAMPs will coordinate the activities of all levels of government into a single strategy for each geographic area. Implementation of the SAMPs will add force to the State CMP and Local Waterfront Improvement Programs by presenting an explicit and consistent application of site-specific management guidelines for each

area. SAMPs will identify areas where portions of the shoreline need to be fortified, and areas where retreat from the shoreline is appropriate.

2. Development of Special Area Management Programs

Special Area Management Programs will contain two principal parts. The first will be an inventory and analysis of all relevant factors affecting future decisions on the use of the barrier islands. The second part results from a synthesis of the inventory and analysis work and will be a determination of specific hazard mitigation/management strategies appropriate to the area covered by the SAMP.

a. Inventory and Analysis

The development of individual SAMPs will follow a carefully designed format to integrate environmental, land use, economic, and regulatory information which will lead to the formulation of specific hazard mitigation strategies. This information is not uniformly available in a form which allows comparative analysis of various hazard mitigation techniques. The lack of information means that decisions are made in isolation from their potential impact on the entire system.

1) Environmental Component

The environmental component of the inventory and analysis will provide the detailed information on physical processes influencing erosion of the barrier island and on the biological resources that depend upon the barrier island. Data to be gathered for this component include identifying and quantifying the coastal processes at work, for example, evaluating past shoreline change; developing models for predicting how the shore will respond to forces acting upon it, including man-made forces; and investigating the impact of sea level rise and catastrophic storms on the barrier islands. In addition, environmental features, such as the characteristics of natural protective features (beaches, dunes, bluffs), significant fish and wildlife resources, and patterns of human use and coastal change will be investigated.

2) Land Use Component

The land use component of the inventory and analysis will document the characteristics of existing land use on the barrier island. The purposes of the land use component are: a) to identify the type and intensity of existing public and private land uses; b) to identify the intensity and type of development which is

compatible with the level of the hazard and the coastal processes at work; and c) to determine whether it is in the long-term public interest to protect and maintain existing uses, or to relocate or abandon them.

3) Economic Component

The economic component of the inventory and analysis will examine the tangible and the intangible public value of land uses on the barrier island. The economic model developed by New York/New England the Coastal Zone Task Force benefit/cost analysis project, described on page 9, will be applied to land uses on the barrier island to evaluate the long-term economic impacts of land use decisions. The purpose of this analysis will be to determine the long-term public costs and benefits resulting from the maintenance or expansion of existing land uses.

4) Regulatory Component

The regulatory component will examine not only applicable local land use controls but also the administration of various federal, State, and local programs which may directly or indirectly contribute to increased vulnerability of existing and new development

to coastal hazards. The purpose of this component is to understand the complex regulatory and programmatic efforts which dictate development characteristics on the barrier island.

b. Definition of Explicit Policy and Implementation

Integration of the environmental, land use, economic, and regulatory components for each reach will provide a sound basis for developing a comprehensive tailored hazard mitigation program for each stretch of coastline. As a result of each analysis, the individual SAMPs may include strategies which range from retreat from or abandonment of the shoreline to protection of development through engineering fortifications. The techniques to implement these strategies include regulations, acquisition, non-structural methods engineering projects, and fiscal incentives or disincentives.

Typical SAMP results would include the following:

1) Identification of areas where new development would be permitted because the level of existing development, the potential for flood and erosion damage, and the probable long-term success of erosion control measures would justify the public expense involved in stabilizing and protecting these areas. Specific

conditions for reduction of risk would be through regulatory techniques determined for each designated development area.

2) Identification of areas where no development should occur, or where existing development should be relocated, based upon the hazard potential and the public cost resulting from barrier beach dynamics which would make structural solutions impractical. Priorities for acquisition or stringent regulation would be established.

3) Identification of areas where erosion control structures would be allowed and where existing development could be maintained because it is in the public interest. The type of erosion control structures and their location would be specified so that a series of individual structures would operate as a whole.

Upon completion, the SAMPs will be integrated into the CMP and applicable LWRPs, making them a critical and enforceable new component of the State's overall coastal resources management effort. SAMPs will also assist local government and State agencies by showing how future hazard impacts would be mitigated through development, regulatory, acquisition or relocation plans.

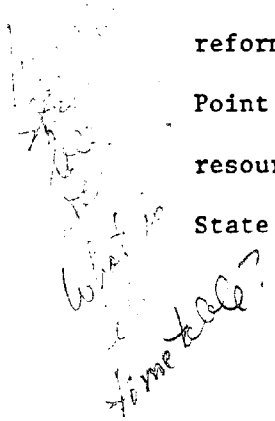
IV. THE ROLE OF FEDERAL AGENCIES

The development of SAMPs for the barrier islands will be a complex undertaking, requiring the formulation of clear public policy based on the analysis of solid data on the physical resources and coastal processes affecting the entire area. Federal, State and local governments have particular resources and traditional responsibilities which are necessary to develop the envisioned SAMPs. The success of this new coastal hazard effort for the Long Island barrier islands will depend upon active State, federal and local government support. Federal involvement in the SAMPs program is critical in at least three areas: 1) environmental analysis; 2) SAMP development; and, 3) project implementation. and renewed support

A. Environmental Analysis

Using SAMPs to make effective long-term decisions about the south shore barrier island system will depend on a thorough understanding of the system's physical and biological characteristics.

It would appear that the best available means to gain this understanding is through the U.S. Army Corps of Engineers reformulation study for the authorized Fire Island Inlet to Montauk Point hurricane protection project. This study can incorporate the resources of cooperating federal environmental agencies and the State.



Among the many variables which must be evaluated in order to understand the dynamics of the barrier islands are physical characteristics, such as: wave spectra analysis, nearshore bathymetry, littoral transport rates, historic shoreline change, current shoreline characteristics, sea level rise effects and barrier island profiles. Physical information regarding the natural protective characteristics of the barrier island system as it relates to erosion and flooding of the mainland is also essential to understand the importance of subsequent action on the barrier islands.

Existing biological resources also need to be inventoried and evaluated. Off-shore benthic and pelagic resources, barrier island resources and back bay environments are ecologically distinct, and are integral to an understanding of the barrier island environment. The focus of evaluations for each of these areas may naturally differ according to likely anthropogenic influences. Off-shore resource evaluations, for example, could reflect the impact of contemplated projects requiring borrow pit or sand mining for beach nourishment. Barrier island resources such as endangered colonial water bird nesting and raptor migrations that depend on dunal prey availability also need to be incorporated into the SAMP planning mechanism. Finally, an understanding of the back bay environment, which depends on the barrier islands to maintain estuarine salinities, to provide shelter from inclement weather and to sustain shallow, productive areas for benthic and wetland species, is essential for an understanding of the need to maintain the barrier's integrity.

The U.S. Army Corps of Engineers and the federal agencies having particular interest in marine environments, such as the Fish and Wildlife Service, the National Marine Fisheries Service, the Environmental Protection Agency, and the National Park Service have the staffing expertise to undertake the highly technical investigations needed. Through the reformulation study, the Corps will be able to develop the required data on physical coastal processes and resources. Information on biological resources, which is also a component of the reformulation study, can be obtained in cooperation with the other federal agencies listed above.

B. Special Area Management Program Development

Formulation of SAMPs will involve a cooperative effort among federal, State and local government agencies. The federal government must be involved in defining the areal extent of individual SAMPs. The on-going federal concerns and responsibilities expressed in project authorizations, the reformulation study, and statutory and regulatory criteria which control federal actions must be factored into the developing State framework to ensure successful implementation of SAMPs. The U.S. Army Corps of Engineers can play an essential role in this task.

As currently envisioned, the State will work with local governments to evaluate appropriate land use patterns based on social and economic factors. This information will be matched with

appropriate protection measures based on the understanding of the system dynamics resulting from the inventory and analysis work and upon the limitations on federal involvement dictated by existing authorizations, legislation, and regulations.

In order to define workable SAMP boundaries, an understanding and interpretation of the federal authorization and the economic criteria that define federal participation is essential. An evaluation of what geographic sections of the barrier island meet the economic thresholds which justify construction of a hurricane protection project is needed immediately. This evaluation should start from an analysis of the project benefits along the entire south shore barrier island, continue with a similar reach-by-reach analysis and conclude with a delineation of smallest geographic sections that qualify for federal participation. This evaluation will define the smallest permissible federal interest areas as building blocks which can be integrated into the final definition of a SAMP boundary.

C. Project Implementation

The third area of federal involvement in this approach is project construction and resource protection. Once appropriate types and levels of protection are determined by interaction of federal, State, and local interests, federal participation in SAMP implementation can be approached in three ways.

1. Dune, beach and groin construction. The existing federal authorization allows for dune, beach and groin construction meeting hurricane protection standards. As currently envisioned, individual SAMPs may include the need for such traditional hurricane protection construction. To a large degree, this will depend on the geographic identification of economically justified project areas as described in the previous section.

2. Alternative hurricane protection. It is likely that individual SAMPs will also identify the need for other types of hurricane protection which may be warranted due to severe and localized coastal processes or to project costs which cannot meet the U.S. Army Corps of Engineers economic thresholds to justify project construction. Alternatives could include relocating structures (vertically or horizontally out of a flood zone), flood proofing with ring levees or using conservation practices. Based on the Department of State's analysis, it would appear that these and other alternatives may be possible within the existing Fire Island Inlet to Montauk Point project authorization. In order to develop comprehensive SAMPs that reflect existing federal limitations, it will be important to know which alternative hurricane protection methods are available and how cost/benefit formulae would be used to define areas that could receive this type of project. The Corps of Engineers is the only entity capable of providing this information.

3. New authorizations. The SAMPs should result in a clear statement of needs that reflect specific planning direction: engineering fortification, complete abandonment or facilitated and rational retreat. At the end of or during individual SAMP development, it may become apparent that the SAMP planning objectives cannot be achieved within the limitations of the existing authorizations.

If the current authorization does not allow, or cannot be interpreted in a way that would allow specific SAMP objectives to be met, an effort to seek a new authorization which reflects the combined concerns and commitment of federal, State and local governments would be sought.

V. THE ROLE OF STATE AGENCIES

The Department of State, through the Division of Waterfront Revitalization and Coastal Resources, will be the agency responsible for the development of Special Area Management Programs in New York State. The Division will prepare a detailed work plan to coordinate the efforts of federal, State and local governments throughout the process of developing SAMPs. Active participation of State agencies is needed through all phases of the SAMP process, from data collection to formulation of specific hazard mitigation strategies for individual areas.

Technical expertise of the Division's staff in the areas of coastal geology, biological systems, land use, regulatory analysis and economic evaluation will be complemented by the involvement of other State agencies with special expertise and management responsibilities for State facilities on the barrier islands. These agencies include the Office of Parks, Recreation, and Historic Preservation, the Department of Environmental Conservation, the Department of Transportation, the State Emergency Management Office, the State Geologist, and the Department of Economic Development, among others.

These State agencies will serve in an advisory capacity to the Division in the Division's work affecting State-owned lands. It is anticipated that the Division would work closely with the responsible State agency and the Executive Chamber to ensure that the conclusions of the SAMP, and the policy concerns of the affected State agency are fully recognized and coordinated.

VI. THE ROLE OF LOCAL GOVERNMENTS

Local governments have a key role in the development and implementation of SAMPs. During the initial phases of SAMP preparation, local governments will use their special knowledge of local conditions to assist federal and State agencies in collecting and interpreting physical, biological, land use, economic, and regulatory data.

The Division will work closely with local governments as the SAMPs progress so that policy decisions on the appropriate hazard mitigation

strategies can be made in a way which reflects local needs and concerns. Through their powers to regulate land use, local governments will contribute significantly to the successful implementation of SAMPs. When local governments incorporate SAMPs into their LWRPs and enact the local laws and programs which are necessary to support strategies contained in the SAMPs, they will ensure that the goal of wise hazard area management is achieved.

VII. SUMMARY

The goal is to develop and implement a coordinated approach to protect human lives and natural resources, to minimize damage to property, and to prevent the wasteful expenditure of tax dollars. This will be accomplished through integrated information gathering and analysis (including social, economic, physical and biological systems) and formulation of a comprehensive strategy, coupled with a match of federal, State and local priorities.